

Claims

- [c1] [c1]1.A non-plowing method for establishing vegetation on at least partially denuded land comprising the steps of:
- (a) laying out a continuous layer of nutrient matrix directly on said at least partially denuded land, said layer of nutrient matrix containing water and nutrient contents necessary for growth of plants;
- (b) sowing plant seeds on the top surface of said at least partially denuded land before said layer of nutrient matrix is laid out, or sowing plant seeds into said layer of nutrient matrix after it is laid out, or mixing plant seeds with the constituents of said layer of nutrient matrix and laying out together with said layer of nutrient matrix;
- (c) establishing an artificial vegetable cover on said at least partially denuded land by supplying said plant seeds water and nutrient contents contained in said layer of nutrient matrix to sustain their growth.
- [c2] [c2]2.The method of claim 1, wherein the basic material in said layer of nutrient matrix is a biological material.
- [c3] [c3]3.The method of claim 2, wherein the biological material is selected from the group consisting of crop

refuse, dejecta of animals, municipal waste which is substantially separated from metal, plastic, glass and other undesired substance, and mixtures thereof.

- [c4] [c4]4.The method of claim 2, wherein the biological material is preferably treated by fermentation process.
- [c5] [c5]5.The method of claim 2, wherein the particle size of the basic material is 3-100 meshes, preferably 5-30 meshes, and more preferably 10-20 meshes.
- [c6] [c6]6.The method of claim 4, wherein said fermentation process of the biological material is a natural fermentation in the presence of a fermentation agent.
- [c7] [c7]7.The method of claim 1, wherein said layer of nutrient matrix contains a binder and exists substantially as a monolithic layer.
- [c8] [c8]8. The method of claim 7, wherein said binder is preferably selected from the group consisting of starch, pre-gelatinized starch, modified starch, other polysaccharides and mixtures thereof.
- [c9] [c9]9.The method of claim 1, wherein said layer of nutrient matrix contains a water retentive agent.
- [c10] [c10]10.The method of claim 9, wherein said water retentive agent is compound resin which can absorb water.

- [c11] [c11]11.The method of claim 1, wherein said layer of nutrient matrix contains nitrogen, phosphor and/or kalium.
- [c12] [c12]12.The method of claim 4, wherein said plants seeds are added into said biological material after it has undergone said fermentation process.
- [c13] [c13]13.A nutrient matrix which is used to form a layer of nutrient matrix on at least partially denuded land and to establish vegetation on said at least partially denuded land by a non-plowing method, comprising:
 - Biological materials 60–90 wt.%
 - Binder 5–20 wt.%
 - Water retentive agent 0.1–5 wt.%
 - Plant nutrients 2–15 wt.%, in which the particle size of said biological material is 3–100 meshes, preferably 5–30 meshes, and more preferably 10–20 meshes.
- [c14] [c14] 14.The nutrient matrix of claim 13, wherein said biological material is selected from the group consisting of crop refuse, dejecta of animals, municipal waste which is substantially separated from metal, plastic, glass and other undesired substance, and mixtures thereof.
- [c15] [c15] 15.The nutrient matrix of claim 13, wherein said binder is preferably selected from the group consisting of starch, pre-gelatinized starch, modified starch, other

polysaccharides and mixtures thereof.

- [c16] [c16] 16.The nutrient matrix of claim 13, wherein said water retentive agent is compound resin which can absorb water.
- [c17] [c17] 17.The nutrient matrix of claim 13, wherein said plant nutrients include nitrogen, phosphor and/or kalium.
- [c18] [c18] 18.The nutrient matrix of claim 13, wherein desired plant seeds are added into said nutrient matrix.
- [c19] [c19] 19.The nutrient matrix of claim 13, wherein the volume weight (wet volume weight) of said nutrient matrix is 0.30–1.30 g/cm³, preferably 0.40–0.90 g/cm³, and more preferably 0.55–0.65 g/cm³; the overall porosity of said nutrient matrix is 30–80%, preferably 40–70%, and more preferably 55–60%.
- [c20] [c20]20.The nutrient matrix of claim 13, wherein said nutrient matrix comprises
 - Biological materials 70–80 wt.%
 - Binder 6–10 wt.%
 - Water retentive agent 0.3–2 wt.%
 - Plant nutrients 4–10 wt.%, in which the particle size of said biological material is 5–30 meshes, preferably 10–20 meshes.

